

The University Senate of Michigan Technological University

PROPOSAL 29-95

DEPARTMENT OF EDUCATION

The Senate supports the recommendation to create a new Department of Education described below.

RATIONALE

It is proposed that MTU's Teacher Education Program, currently a subdivision within the Division of Education and Public Services, be restructured as a new, separate Department of Education within the College of Sciences and Arts.

This change is prompted by a growing awareness that economic competitiveness depends critically upon a work force that is well-educated in science and mathematics. In accordance with MTU's mission statement that "the institution shall provide the inhabitants of this state with the means of . . . the application of science to industry. . . and shall seek to promote the welfare of the industries of the state," Michigan Tech must assume an increasing responsibility and role in providing well-educated science and mathematics teachers. Science and mathematics teachers from Michigan Tech will also be the best recruiters for future MTU students. In addition, this program will help foster diversity within the student body.

The proposed reorganization will increase the visibility and academic credibility of the teacher education program by strengthening the ties to the academic departments. The current structure of the teacher education program at Michigan Tech makes it appear to be an afterthought to our regular degree programs. Students typically become education majors after dropping a major within engineering. Further, there are no particular efforts to recruit students into this program or to highlight the program and its graduates. Counsellors are not as aware of this program as they are of other professional programs within the university and it has been reported that some counsellors at times even try to dissuade students who are interested in teacher certification from staying at Michigan Tech. As an academic department, the education program will receive greater visibility, the opportunity to develop relationships with other departments, and a more respected role within the University.

The chair of the Department of Education will be more aware of activities in the content areas of Sciences and Arts and will be able to coordinate course offerings using adjunct faculty. For example, it may be possible to restructure the current teaching methods course into an interdisciplinary course with 3 credits taught as a general methods course and one credit taught within the content area, such as mathematics, biology or chemistry. Some faculty in the College of Sciences and Arts feel that there is an important body of knowledge involving teaching methods in their disciplines, to which graduates of our current teacher education program are not being exposed.

At the present time there is minimal interaction between education faculty and faculty within the College of Sciences and Arts. As a department within the same college, the faculty of education would be more likely to get involved with other faculty within the college, both in terms of course development and in grantsmanship. There are numerous funding opportunities for proposals to work with preservice and inservice teachers. Such grants usually require a team of individuals who are interested in working with teacher education efforts within their departments and with the teacher education department at their university. Such efforts usually result in a stronger infrastructure for the course offerings of each department, as well. What is better for future teachers, usually benefits other students. The National

Science Foundation currently has many funding opportunities available for programs in mathematics and science education.

The director of the Division of Education presently reports directly to the Provost. This has produced an isolation of the personnel in this unit from those in other academic departments. Due to the many demands placed on the Provost, this has also resulted in a minimal degree of evaluation and accountability. Restructuring of the division to department status within the College of Sciences and Arts will provide a mechanism for accountability of the program to Dean of Sciences and Arts. The Education Department chair will attend all meetings of other department chairs and will have both the guidance and support of the Dean of Sciences and Arts in the development of its programs.

The new department will continue the tradition of educating excellent secondary school teachers by providing a certification program for students majoring in mathematics, computer science, or in any of the fields of sciences or engineering. That is, it will continue to be a non-degree granting department which provides Michigan 7-12 teacher certification for individuals with a major in other academic disciplines.

There was no support for combining the departments of education and physical education. The missions of these two departments are too different. However, in order to realize some administrative streamlining and reduce the service/committee loads on the faculty in the two departments, it is proposed to establish a Division of Education. Faculty of the two departments within this division would rotate to represent the Division of Education on such committees as the college committee for promotion and tenure and on the Senate.

VISION

The vision for the Department of Education is defined by the following expectations:

1. Maintain current approach of providing Michigan 7-12 teacher certification for students with a major in other academic disciplines. MTU's secondary school teachers in mathematics and science have already established a reputation across the state of being individuals who are very strong in the content knowledge of their field. This needs to continue to be a major goal of the program.
2. Student enrollment will increase. At the present time 35 to 40 students are enrolled in this program. Within the framework specified in point (1) there is substantial room for attracting more students.
3. Formalize postbaccalaureate programs in conjunction with other departments. This can take the form of
 - a) continuing professional development course work in a non-degree program (for in-service teachers).
 - b) offering formalized Plan B Master's Degree programs in each of the content departments for individuals concurrently seeking initial (provisional) teacher certification.
 - c) offering formalized Plan B Master's Degree programs in each of the content departments for teachers with provisional certification who are seeking continuing certification.
4. Cooperation between the Department of Education and the other departments will lead to innovative, collaborative education methods courses characterized by state-of-the-art educational methodology and permeated by the latest knowledge and technology of the disciplines.

There is a body of knowledge about teaching, particularly teaching laboratories, that is specific to each discipline. Laboratory preparation and maintenance techniques and laboratory safety concerns are examples. Guidelines and requirements for animal care, chemical handling, and exposure to hazardous materials are changing constantly and faculty in the content departments are best situated to know of these changes and how to implement them. Many of the revolutionary changes in educational technology

that need to be presented to teachers are subject specific and their usefulness and appropriateness are best presented by faculty in the content departments.

Such "education" based cooperating faculty positions in mathematics and science content areas need to be specified. Faculty in these positions will play an integral part in lecture or laboratory courses of the home department. They will facilitate the current technological revolution in mathematics and science education and serve as a visible demonstration of MTU's commitment to excellence in undergraduate education. They may be involved in first year learning centers and related activities and, together with other adjunct faculty members of the education department, could help establish a formalized network of on-campus practical experiences for pre-service teachers.

5. Maintain course listings under an Education Department heading to provide a visible, viable program. The list of courses, which are taken predominantly by pre-service teachers needs to be consolidated or, at least, cross-listed. Faculty should be responsible for establishing and maintaining close relationships with high schools. Placing and monitoring performance of student teachers, because of the traveling required, is a special assignment within the unit.

6. The primary responsibilities of the chair of the Department of Education are coordinating teacher education activities within the Department of Education, across the involved disciplines, and maintaining a program which meets all Michigan and peripheral state certification and accreditation requirements.

BROAD OBJECTIVES AND SPECIFIC GOALS OF THE DEPARTMENT OF EDUCATION

Broad Objectives:

1. To educate professionally competent secondary school mathematics, computer science, and sciences teachers.
2. To educate secondary school teachers who are known for their excellence in communication of content areas and classroom management.
3. To educate secondary school teachers who are leaders in incorporating technology into the teaching and learning of mathematics, computer science, and the sciences.

Specific Goals:

1. To increase the number of students enrolled in teacher education and the number of teaching certificates awarded each year.

Rationale: The University currently awards 25 - 30 high school teaching certificates each year. As a result

of the increased visibility afforded by Department status and the increased recruitment of students into the teacher education program, we anticipate a 50% increase in certificates awarded by the year 2000 with continued growth from that time on.

2. To consider complementary educational methods courses in the content departments.

Rationale: The Division of Education currently offers a course in teaching methods, ED463, which provides students with general knowledge concerning educational methodology in the sciences.

Within each discipline there is a body of knowledge about teaching that is specific to that discipline. Many aspects of laboratory preparation, laboratory safety, and laboratory recording differ from discipline to discipline. Guidelines and requirements for animal care, chemical handling and exposure to hazardous materials are constantly changing in response to state and federal law. Investigative laboratories and group work wherein students design and then carry out their own experiments are rapidly replacing the

older style labs where details of each experiment were provided by the instructor. For all of these, the faculty in the content departments are best situated to be aware of these changes and to instruct students in their implementation. These courses would be offered in conjunction with and would complement, not replace, the existing ED463 course.

3. To identify 1 faculty member in each content department who will be the counsellor and advisor for education students and who will be the liaison between the content department and the Department of Education.

Rationale: In order to maintain close contact with the Department of Education and to best support the education students in each department, each of the content departments will identify at least one individual who will be given an adjunct appointment in the Department of Education. This individual will assist in recruiting students into the teacher education program and will act as departmental advisor for these students. This person may or may not be the same individual who teaches the majors teaching methods course. The Dean of Sciences and Arts will work with the chair of the Department of Education and the chairs of the content departments to determine adequate reductions in other assigned duties for the person(s) so designated.

4. To submit interdisciplinary grant proposals involving the Department of Education and the Content Departments.

Rationale: The Department of Education, in conjunction with the appropriate content department(s), will be in a strong position to submit proposals to various funding agencies for teacher education programs. As an academic department, the likelihood of success in these endeavors is greatly increased.

For example, The Division of Undergraduate Education of the National Science Foundation (NSF) supports programs that seek to "...achieve comprehensive change in the undergraduate education of future teachers...". The *NSF Collaboratives for Excellence in Teacher Preparation* program specifically wishes to "...engage Departments of Mathematics, the Sciences, Engineering, Technology and Education in cooperative ventures with school districts and K-12 master teachers in the preparation of K-12 teachers".

5. Move the full-time Psychology position and the half-time instructor/GTA position currently in the Humanities Department into the Department of Education. Eventually, advertise and hire 1 additional position in Educational Psychology.

Rationale: The current placement of the Psychology teaching position and courses within the Department of Humanities is inappropriate. At the same time, the Department of Social Sciences does not wish to hold this position. The current psychology position and the associated courses will be moved to the education department. Eventually, a second psychology position that has been staffed by a half-time instructor/GTA for several years will be filled by a person with a specialty in educational psychology and assigned to the Department of Education. Current psychology course offerings will continue and new courses may be added as needed.

6. Consider the need for formalization of Plan B master's degree programs in each content department for individuals seeking initial (provisional) teacher certification and for current high school teachers who wish to enhance their teaching credentials.

Rationale: Individuals holding baccalaureate degrees may obtain provisional teacher certification by completing a teacher education program. If they have also completed a Master's Degree, they will be eligible for continuing certification upon successful completion of three years of teaching.

Students completing their baccalaureate degree in a teacher education program receive provisional certification by the State of Michigan. After three years of teaching, these individuals may apply for Continuing Certification upon completing of 18 semester hours (27 quarter hours) in a planned course of study or upon completing a Master's Degree.

Currently, individuals who wish to pursue a Master's degree associated with teacher certification are required to form ad hoc programs within the content departments. The Department of Education will work in cooperation with each of the content departments to formalize Plan B Master's Degree programs designed specifically for teachers wishing to augment their credentials and acquire continuing certification. Teachers enrolled in such a program will be a valuable resource to the content departments as teaching assistants, instructors in learning centers and tutors. The programs will be designed to allow teachers the flexibility to continue their teaching duties while they pursue their advanced degree, should they so desire. Once developed, these programs will be advertised along with the other graduate programs of the University.

COMPOSITION OF THE DEPARTMENT

FACULTY: The faculty of the Department of Education consists of a minimum core of two full-time tenured/tenure-track faculty. (Independently from this task force, it has been proposed to house psychology in a department of education instead of humanities. This would mean the addition of 0.75 FTEF from Humanities to the 0.25 FTEF currently set aside for psychology in the teacher education program. This move will by no means affect the responsibility of psychology faculty to offer the broad range of service psychology courses needed by other majors). In addition, adjunct faculty in the content areas will contribute to the course offerings. The core faculty is responsible for the education curriculum and for establishing and maintaining close relationships with high schools, placing and monitoring performance of student teachers. Experienced part-time faculty could help in this supervisory role of monitoring student teaching, practice, and other off-campus pre-service experiences. Core faculty should hold terminal degrees in their area of instruction and supervision and have successful teaching experience in their area of instructions and supervision.

A second Psychology faculty position has been staffed by a half-time instructor/GTA in the Department of Humanities for several years. This position will also be moved to the Department of Education. When funds are available, this position will be upgraded to a tenure track position.

The relevant criteria for faculty qualifications and assignments of the National Council of Accreditation of Teacher Education (NCATE) are:

Criteria for Compliance:

- (53) The composition of the faculty represents cultural diversity.
- (54) Faculty have earned the terminal degree or have exceptional expertise in their fields to qualify them for their assignments in professional education programs. They have formal advanced study or demonstrated competence through independent scholarly activities in each field of specialization that they teach.
- (55) Faculty view themselves as members of the training and research arms of the teaching profession.
- (56) Faculty with responsibility for supervision of school-based experiences have had training in supervision as well as professional experiences in the school setting in which that supervision takes place.
- (57) Part-time faculty meet the requirements for appointment to the full-time faculty.
- (58) Graduate students who are assigned to instructional roles are qualified in terms of formal study, experience, and training.
- (59) Cooperating teachers and other field-based supervisors have a minimum of three years of experience in the areas they are supervising and are certified for the areas in which they are teaching or working.

It will be imperative that the department head/chair cooperates with all departments involved in the program and is able to work with and lead a team effort of core and adjunct faculty from the various disciplines.

STAFF: One executive secretary.

CURRICULUM

The program and courses of the Teacher Education and Development program are listed in the Undergraduate Catalog. It will be the responsibility of the core faculty together with the adjunct faculty to review the curriculum and offer an innovative, progressive, state-of-the-art competitive program.

For example, the current course *ED463 "Methods of Teaching Science, Mathematics, and Computer Science"* could become a team-taught course to represent the best possible union of educational methodology and discipline-specific knowledge and technology.

BUDGET

Currently, 2.5 FTEF positions are associated with the Division of Teacher Education at Michigan Tech. One of these is the Director and the remaining 1.5 FTEF is composed of part-time personnel. It was the clear consensus of the task force and of everybody responding to our inquiries that a faculty of one was unstable and that at least one other full-time faculty needs to be added. If the teacher education department is going to become a strong entity able to reach the goals described by our vision and mission, then it must rely less on temporary part-time faculty.

We propose to consolidate the part-time positions to 1 full-time tenure-track position (1 FTEF). In addition, 0.75 FTEF will be added by moving the Psychology faculty member from the Department of Humanities to the Department of Education (0.25 FTEF of this position already resides in the Division of Education). Finally, the half-time instructor/GTA will be moved to the Department of Education. As a result, the Department of Education will initially have three full-time, tenure-track faculty (3 FTEF) positions plus one instructor position and an executive secretary.

A total increase of \$35,000 is proposed in the 1995-96 budget to accomplish the restructuring of the Division of Education to a Department of Education.

Adopted by Senate: October 11, 1995

Approved by President: November 1995